IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant(s): L. BISSONNETTE *et al.*

Application No.: 09/923,407

Filed: August 8, 2001

For: GOLF BALLS INCLUDING SOLUTION BLENDED POLYMERIC COMPOSITE AND METHODS OF MAKING SAME

Attorney Docket No: 20002.0092

Group Art Unit: 1712

Examiner: D. Buttner

DECLARATION OF LAURENT C. BISSONNETTE UNDER 37 CFR § 1.132

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

I, Laurent C. Bissonnette, hereby declare the following:

1. I am a citizen of the United States, and reside at 160 Sea Meadow Drive, Portsmouth, RI 02871.

2. I am one of the inventors of the invention disclosed and claimed in the above-identified patent application.

3. Since November 25, 1996, I have been employed by ACUSHNET COMPANY (formerly doing business as Titleist and Foot-joy Worldwide), 333 Bridge Street, Fairhaven, MA 02719, the Assignee of record of the entire, right, title and interest in the invention.

4. I presently hold the position of Director of Applied Research.

5. This declaration is filed to provide clarification of the benefits of the solution blended polymeric composites of the present invention as understood at the time of invention.

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6. At the time of the invention, the conventional methods for blending resilient polymer components, such as polybutadiene and polyisoprene, included roll milling and blending with a Banbury mixer.

7. The present invention uses a novel approach to blending resilient polymer components and nanoparticles to facilitate and improve the mixing of these polymers, thus providing a combination of properties unobtainable from blending the same components and nanoparticles with conventional mixing or polymerization techniques. (Specification at Page 10, lines 22-24).

8. For example, the solution blending of polymer components and nanoparticles according to the present invention provides a composite that, once formed into a golf ball core, provides an increase in coefficient of restitution over that of a core, formed of similar components via conventional roll milling or mixing, with comparable compression. This example of the differences that are obtained is described in Example 19 in the Specification at page 24, lines 1-29.

9. In addition, solution blending of the resilient polymer components with a plurality of nanoparticles results in a different composite than that achieved with conventional roll milling or mixing of resilient polymer components with nanoparticles. In fact, the polymeric composite of the present invention has a uniform dispersion of nanoparticles. (Specification at Page 9, lines 14-15). In contrast, the conventional blending of resilient polymer components with nanoparticles is known to produce a composition with a non-uniform dispersion of nanoparticles.

10. The non-uniform dispersion of nanoparticles can cause the material to have a lower durability and poorer resilience properties. For instance, a high density or cluster of ZDA particles that may result from conventional processes can cause the material to crack or fail, and likewise is believed to reduce the resilience of the material. In contrast, the solution blended polymeric composites of the present invention have improved nanoparticle dispersion as compared to conventionally blended resilient

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polymer compositions. I believe that the greater uniformity of dispersion of nanoparticles in the composition that can be achieved with the present invention will lead to greater durability and improved resilience properties of the material.

11. Thus, not only is the present invention's method of solution blending of resilient polymers different than conventional methods of blending resilient polymers, the final products also differ in resiliency and nanoparticle dispersion. While the data presented for Example 19 of the application illustrates that use of the present invention results in different ball properties as compared to a ball made with the same materials that are blended in a more conventional manner. These differences are significant, previously unappreciated improvements over the prior art, including the references cited by the Examiner.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully Submitted,

Date: 7/16/03

Laurent C. Bissonnette

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